DRAFT - ENHANCEMENT AREA ASSESSMENTS & STRATEGIES

Energy & Government Facility Siting: Assessment

Section 309 Programmatic Objectives (see Attachment B for more detailed discussion)

I. Enhance existing procedures and long range planning processes for considering the needs of energy-related and government facilities and activities of greater than local significance.

II. Improve program policies and standards which affect the subject uses and activities so as to facilitate siting while maintaining current levels of coastal resource protection.

Management Characterization

1. Identify significant changes in the state's ability to address the siting of energy and government facilities since the last Assessment (e.g., new regulations, guidance, manuals, etc.). Provide the following information for each change:

- **Characterize the scope of the change**
- **Describe recent trends**
- **Identify impediments to addressing the change**
- **Identify successes**

Consistent with national trends and increasing energy costs, there is a rising interest in expanding options for energy production within the state. Virginia is currently a net importer of electricity, and rising costs of natural gas have caused concern, especially among industrial energy consumers. According to the Virginia Department of Mines, Minerals and Energy, petroleum (primarily for transportation) is Virginia's most used fuel (39%), followed by coal (21%), interstate electricity flows (14%), nuclear generated electricity (12%), natural gas (11%), wood and waste (4%), other (1%), and net hydropower (-1%). Of the natural gas consumed in Virginia, the growing residential sector currently uses the most (30%) as compared with industrial and other consumer types in Virginia.

Two other trends relating to energy facility siting have been noted in Virginia. The first is that Virginia is increasing in its role as a major transfer station for the export of coal, requiring additional infrastructure, and this may require the expansion of facilities within Virginia's Port Authority. The second is that the deposition of mercury and nitrogen in Virginia's streams and coastal waters is increasing, likely as a result of coal-burning facilities to the west of these waters, and is being monitored by the Coastal Program. These two trends bear watching and may merit attention in the future with regard to the development of new enforceable policies.

Two sources of energy currently being examined in Virginia have potential to impact the coastal zone: offshore gas exploration and production and utility-scale wind energy development. While not a new source of utility-grade energy for Virginia, the proposed expansion of nuclear energy generation facilities also have potential to impact the coastal zone.

Offshore Gas Study

Currently, a federal ban remains in place prohibiting offshore oil and gas leasing on the Outer Continental Shelf through June 2012. The 2005 General Assembly, seeking to identify ways to lower Virginia's energy costs and support economic development, ordered a study into the potential for offshore gas exploration and leasing. Virginia House Joint Resolution 625 directed the Secretary of Commerce and Trade, with staff support from the Department of Mines, Minerals and Energy and the Virginia Coastal Zone Management Program, to conduct a Study of Offshore Natural Gas Exploration and Production. The Secretary convened an advisory group, including the Secretariat of Natural Resources, industry representatives, and environmental organizations, to examine the issues involved. The study is intended to identify informational needs to characterize the extent of the resource; discuss processes for federal and state environmental review and permitting, including CZMA consistency review; and identify potential impacts on tourism and coastal and natural resources, including wildlife. The study, which will be complete by January 2006, is expected to greatly enhance the state's ability to address the siting of offshore energy facilities and anticipate their impacts.

It is also noted that the draft federal legislation entitled State Enhanced Authority for Coastal and Offshore Resources Act (SEACOR) would greatly expand the state's ability to address the siting of offshore energy facilities. This legislation would provide an expansion of states' jurisdiction over drilling activities beyond the traditional 3 nautical miles of state waters to 12 nautical miles. It would also include provisions for state veto over natural gas projects up to 40 nautical miles and oil drilling up to 100 nautical miles.

Wind Energy

Since the last assessment, interest in wind energy has developed in Virginia. A 2002 study commissioned by the Department of Mines, Minerals and Energy (DMME) and the US Department of Energy (DOE) identified the areas with significant wind energy potential as the ridgelines and mountaintops in the western part of the state, and offshore waters and exposed points and islands in the Chesapeake Bay and Atlantic. These coastal wind resources, while ranked second to those in Virginia's mountains, have a great potential to be developed in the coming years. In 2002, an offshore wind facility was proposed off the Eastern Shore. Due to Naval shipping concerns and other factors, the application has since been withdrawn and is no longer under review.

In July 2005, Highland County approved a conditional use permit for the first wind farm in Virginia to be sited on Allegheny Mountain. Although this project is in the western part of the state and does not directly impact coastal areas, the state review and approval process for this project will offer a case study for potential future offshore projects.

One impediment to the siting and approval process for wind energy has been identified as a lack of clarity or agreement on the appropriate party to conduct and verify impact studies, especially regarding avian impacts of wind facilities.

The Virginia Wind Energy Collaborative (VWEC) was established in 2002 at James Madison University as a forum for stakeholders in the development of wind energy facilities. The VWEC Environmental Working Group (EWG) has developed a Landscape Classification System (LCS) a GIS-based mapping resource designed to incorporate natural resources in utility-scale wind

siting. The LCS identifies the following coastal zone areas as "unsuitable" for wind utilities: submerged aquatic vegetation beds, state parks and natural areas, easements held by the Virginia Outdoors Foundation, and Nature Conservancy preserves. The following land uses were flagged in the LCS as potential land use conflicts: the Department of Conservation and Recreation's Natural Heritage sites, Department of Game and Inland Fisheries' Wildlife Management Areas, and Virginia Department of Forestry State Forests. The VWEC has also completed a study of local government zoning regulations as they apply to wind projects and the land uses associated with wind utilities, including transmission lines. The Virginia Center for Coal and Energy Research, at the request of the Commission on Electric Utility Restructuring, is currently developing an analysis to estimate the cumulative potential cumulative of wind and other renewable energy sources to meet Virginia's energy needs.

Another resource for wind facility siting is the National Wind Coordinating Committee, which has produced two guides on wind energy siting: *Permitting of Wind Energy Facilities: A Handbook* (August 2002) and *Wind Energy Siting Case Studies* (June 2005).

Nuclear Energy

Dominion Nuclear has applied to the Nuclear Regulatory Commission (NRC) for an Early Site Permit to reserve sites to add two reactors to its current two-reactor North Anna Power Station facility in Louisa County. A Draft Environmental Impact Statement (EIS) has been submitted that considers three additional sites for the expansion, one in Virginia at the existing Surry Power Station along the James River. If issued, this permit would reserve the selected expansion site for up to 20 years, and potentially allow site preparation and preliminary construction.

While the current site in Louisa County is outside the Coastal Zone, the North Anna is a coastal river. The alternate Surry Power Station site sits along the tidal James River. DEQ's Division of Water Resources considers the Surry site, as described in the Draft EIS, to be superior to the North Anna site based on the impacts on limited water resources in the North Anna watershed and downstream. Due to the potential impacts of this proposed expansion on coastal resources, DEQ recommended, and Dominion and the NRC agreed, to assess the effects of the project on Virginia's coastal uses and resources. Dominion has submitted a consistency certification, which is currently being reviewed by agencies administering the enforceable and advisory policies of the Virginia Coastal Program. While this proposed expansion does not represent a change in the State's ability to address the siting of nuclear facilities, the attention to impacts on coastal resources represents an important step in the review process.

Distributed Energy Resources

In 2003-2004, DEQ worked in collaboration with state, local and private organizations to complete a State Energy Program Special Project that identified administrative, economic and regulatory barriers to Combined Heat and Power and Distributed Energy Resources in Virginia. These generation systems offer potential for energy generation in coastal areas with significant electrical transmission constraints. Four workshops were delivered around the state to increase awareness and develop strategies to overcome the barriers identified through the project.

Information Resources

Since the last assessment, much more data has been made available on coastal resources that would potentially be impacted by offshore wind or natural gas facilities. In addition to research specific to energy siting, various projects have been undertaken by state agencies to map and characterize coastal resources such as wildlife habitat and migration, sensitive wetlands and riparian forests. Together, these data sets and new advances in geographic information systems (GIS) represent a knowledge base that offers great potential as a resource for decision makers in the siting of offshore facilities and associated infrastructure.

Conclusion

1. **Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.**

In response to the building interest in offshore gas and wind facilities, a priority need is for a proactive approach to addressing their potential impacts on the coastal zone. The forthcoming Offshore Gas Study and the Landscape Classification System are efforts towards this end, as are the experiences of other states in siting such facilities. In addition to their impacts on coastal resources, it is anticipated that the prospect of both kinds of facilities may instigate intense public discussion and controversy. Building a sound understanding about the potential benefits and impacts of such facilities will be critical for guiding these anticipated discussions.

A proactive approach is also needed in anticipating the regulatory approval and permitting processes for offshore gas and wind and the associated land connections and infrastructure corridors in the coastal zone. It is critical that the state and local agencies invited to comment on facility siting, including the State Corporation Commission; the Department of Environmental Quality; the Department of Mines, Minerals and Energy; and the Virginia Marine Resources Commission, take the opportunity to comment and collaborate in doing so. As offshore facilities have not been previously developed, certain issues, such as avian impacts, lack associated enforceable policies. The environmental review process for an offshore natural gas or wind facility would provide an opportunity for reviewing agencies to become engaged and more broadly assess impacts on coastal and marine resources.

An inter-agency task force with stakeholder involvement could offer one method of streamlining a regulatory and permitting framework for these anticipated facilities. Part of this approach could also involve a collaborative effort among federal, state and local governments to identify coastal areas and corridors most appropriate for siting of water-based and land-based infrastructure associated with offshore and energy utilities. An inter-agency task force would also serve to build partnerships among agencies in advance of any potential expansion of state authority over coastal resources. It is recommended that DEQ and the Coastal Program stay informed about any proposed expansion of the state's authority over mineral resources beyond the existing 3 nautical mile boundary, such as that proposed in the draft State Enhanced Authority for Coastal and Offshore Resources (SEACOR) Act of 2005.

2. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

1997 Assessment		Last Assessment (2000)		This Assessment (2005)	
High		High		High	
Medium		Medium		**Medium**	✓
Low	✓	**Low**	✓	Low	

The medium priority ranking for this enhancement area reflects the emerging issues of siting of offshore wind and natural gas facilities. While the federal ban on new offshore leasing remains in place until 2012, increasing interest in alternative sources of energy has brought additional awareness to offshore facility siting. In the future, this area may be ranked as a high priority based on the results of the General Assembly-commissioned *Study of Offshore Natural Gas Exploration and Production*, released in late 2005. A strategy is not proposed at this time.